

ABSTRACT

A connection end portion of a PC fiber **10** is fused by heating to provide a sealing portion **15** which seals holes **12a** of a cladding **12**. Length L of the sealing portion **15** is
5 determined by calculation based on the conditions such as an incident angle θ [°] of signal light **22** with respect to the PC fiber **10**, an outer diameter D [μm] of the fiber, a diameter a [μm] of the core of the fiber and a refractive index n of the sealing portion **15**.